



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,659	02/04/2005	Christopher N. Bowman	76775.011307	1198
37705 7590 02/21/2008 GREENBERG TRAURIG, LLP 1200 SEVENTEENTH STREET, SUITE 2400 DENVER, CO 80202				
EXAMINER				
BERMAN, SUSAN W				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
02/21/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

***Response to Arguments***

Applicant's arguments filed 01-29-2008 have been fully considered but they are not persuasive for the following reasons.

Applicant has submitted trade literature for KiON CERASET<sup>®</sup> Polysilazane 20 and argues that the literature supports the instant method claims, specifically the method step of pyrolyzing recited in claim 20. Applicant argues that the trade literature evidences that CERASET<sup>®</sup> Polysilazane 20 material is used in order to form an article that can be pyrolyzed to form a 3-D ceramic material (article?).

This argument is not persuasive because the trade literature also teaches that KiON CERASET<sup>®</sup> Polysilazane 20 rapidly solidifies upon heating to 180-200<sup>0</sup> C or can be cured at room temperature by exposure to UV radiation in the presence of a UV sensitizer. The trade literature states that the resin is used "primarily" in ceramic-related applications and can, once solidified, be heated to temperatures in excess of 1,000<sup>0</sup> C to convert it to ceramic materials and is specifically designed for use in ceramic matrix composites via polymer infiltration pyrolysis routes. However, the KiON trade literature also discloses that the polysilazane 20 can be cured by heat or by UV radiation without necessarily being pyrolyzed. The trade literature teaches that its uses are not limited to the primary use in ceramic-related applications.

The disclosure in the trade literature for KiON CERASET<sup>®</sup> Polysilazane 20 taken in addition to the lab notebook pages presented in the Declaration of Chris Bowman under 37 CFR 1.131 filed 9-14-2007 is not considered sufficient to show that applicant reduced to practice a method comprising exposing a composition comprising a monomer corresponding to (a) and a thiol-functional monomer (b) imagewise to actinic radiation, repeating the steps to build a 3-D

articles and then pyrolyzing the 3-D article to form a 3-D ceramic material, as set forth in instant claim 20.

Furthermore, the submitted data in the lab notebook does not identify “Ceraset” as KiON CERASET<sup>®</sup> Polysilazane 20. The specification describes KiON<sup>™</sup> CERASET SN or KiON<sup>™</sup> VL20 as representing the first monomer (a) in claim 20 in paragraph [0009]. It is noted that vinyl(ene) ceramic precursor monomers, including polysilazane, are also disclosed in paragraphs [0031] and [0032]. The lab notebook data mentions “MEMS FAB” but does not provide any evidence of reduction to practice of step (2) imagewise exposure or of steps corresponding to steps (3), (4) or (5) set forth in instant claim 20.

It is noted that claim 27 is a composition claim depending from claim 1 which claim has been canceled and that claim 28 is a method claim depending from claim 9 which has also been canceled. With respect to claim 28 if rewritten to depend from claim 20, there is no evidence of record to show that the instantly claimed method was reduced to practice wherein the composition has no photoinitiator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
2/15/2008

/Susan W Berman/  
Primary Examiner  
Art Unit 1796